2018 SnapPlus Helpful Hints

Need SnapPlus Help?

If you have questions or problems using SnapPlus please check the website at snapplus.wisc.edu for answers about database management, soil test importing, SnapMaps, exchanging data with other people, and how to use certain features within the software. Check out the *How To* videos located under the *Support* menu items for tutorials on SnapPlus.

Videos https://snapplus.wisc.edu/news-help/how-to-videos/

- Using Nutrient Systems
- Dismissing and Restoring a SWQMA in SnapMaps
- Changing Field Labels in SnapMaps
- How to Create an MS Excel Document Daily Log and Import it
- Updating new boundaries in a field using a new shapefile
- Making your Own Customized Map Using the Snipping Tool and MS Word

Contact these DATCP folks for your first level of software support and for NM questions. If necessary, they will forward the following information to the UW Soils team.

Sue Porter	(608) 224-4605, Sue.Porter@wi.gov
Stephanie Schneider	(715) 832-6547 ext. 6019, Stephanie.Schneider@wi.gov
Mark Jenks	(608) 224-4507, Mark.Jenks@wi.gov
Ryan Erisman	(608) 224-4604 Ryan.Erisman@wi.gov
Rachel Rushmann	(608) 224-4622 Rachel.Rushmann@wi.gov Producer Led

1. Screenshot of message received. Use the Microsoft Snipping Tool to take a screenshot of the pop up message or error present on the program. Save and attach to email.
2. Farm Database. As soon as you notice a problem in the program, send the farm database (snap.Db) through email.
3. Syslog Document. The Syslog will show errors and any warning you are receiving when experiencing problems with the program. To access go to Help on the menu bar and scroll down to View Syslog. Click all errors and select errors in the drop down labeled error level. The errors that are present will be narrowed down. Click Save and then attach the document to an email to our address.

Technical UW Soils team support email: support@snapplus.wisc.edu ; PI (Phosphorus index) support: Laura Good, 608-262-9894, lwgood@wisc.edu

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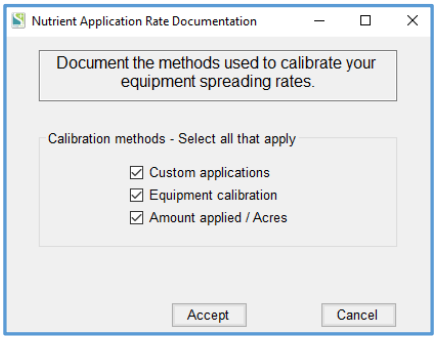
Farm Screen



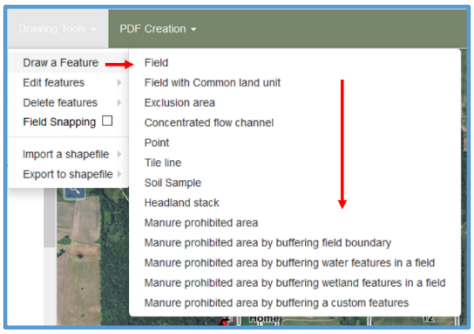
The Calibration Method

The 2015-590 NM Standard requires documentation for how nutrient rates are determined. Planners will be prompted to select their calibration methods. This follows the 2015-590 Standard Checklist item 1. g.

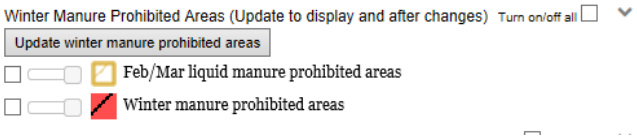
Corrections to SnapPlus's RUSLE2 management templates for small grains – RUSLE2 soil loss calculations did not include straw removal for barley, oats, rye, triticale, wheat – (grain+straw). The consequence is that soil loss may be higher if grain and straw is harvested. If the field exceeds T, then change past crop to grain only. This will adjust the soil loss. In future years using the grain+straw will have the corrected erosion rates.

Soil Tests Screen - Naming Fields be sure to use letters, numbers, underscore, and spaces. **Do Not Use** special characters. This can causes the program to crash.

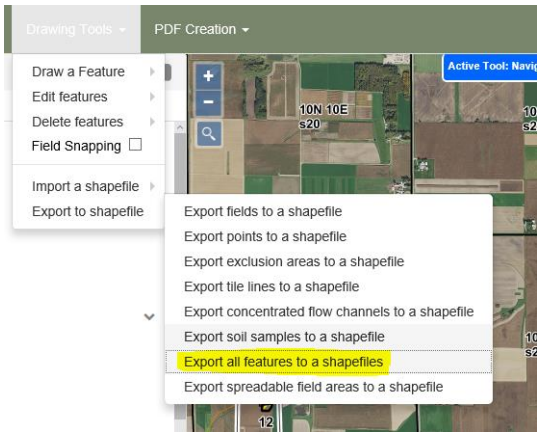
New in SnapMaps



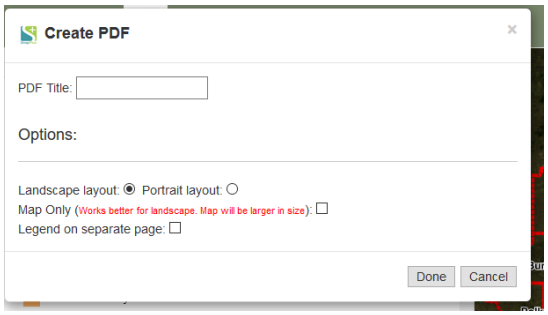
1. Draw or import manure-prohibited areas and soil sample points.
2. Winter spreading maps for all farm types.



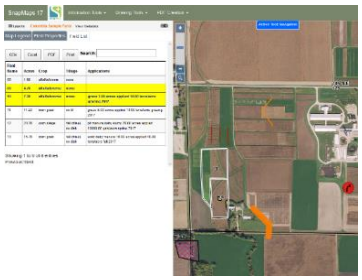
3. Upload from SnapPlus without creating overlapping features (features that significantly overlap ones already in SnapMaps will be ignored).
4. Export and back up all feature types into a single shapefile.

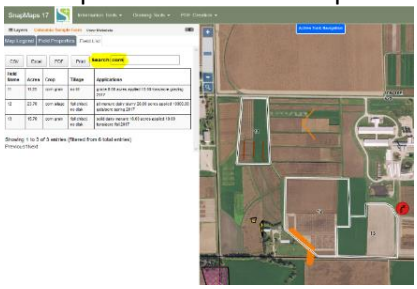


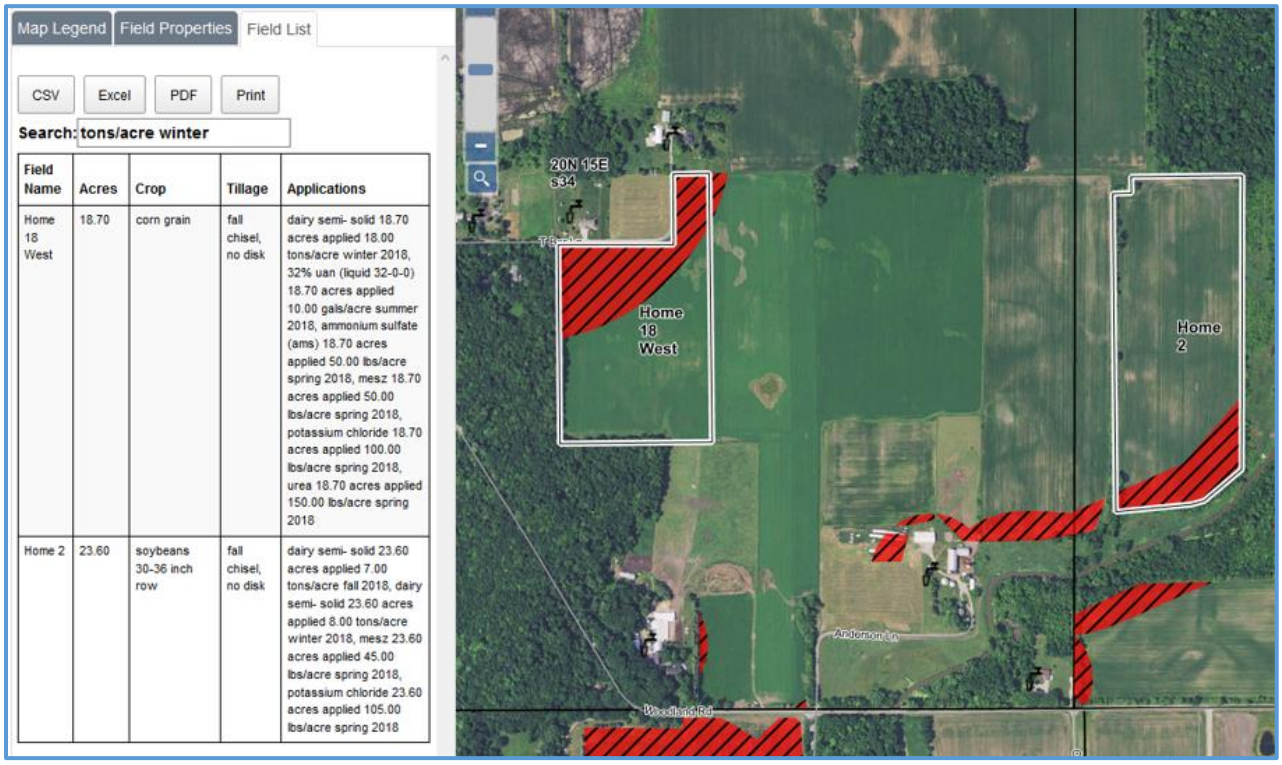
5. Create PDF maps in less than 5 seconds, with visual enhancements and your choice of landscape or portrait orientation.



6. Field list/filter: Filter fields by clicking on fields in the table. Also search fields by key word. Make a Field List for certain crops or applications and a report to follow the map.





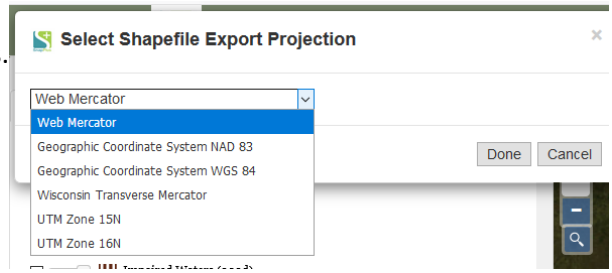


7. Draw custom manure prohibited areas:
   - Draw manure prohibited area by buffering field boundary. You can do the inside or outside of the field boundary.

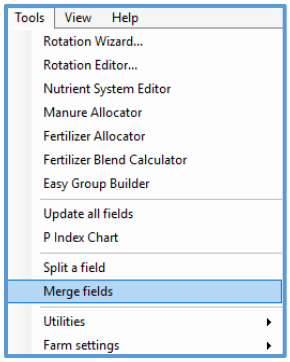

   - Draw manure prohibited area buffers around wetland and water features in a field.

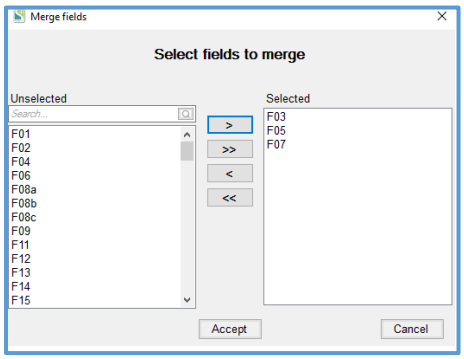

   - Draw a manure prohibited area by buffering custom feature.

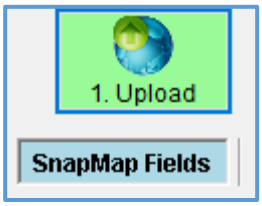
8. Split your manure-prohibited areas to create custom patterns.
9. Delete features by drawing box.
10. Export shapefiles in a variety of projections.
11. 2018 Preliminary layers for Silurian dolomite areas.



12. To merge every other contour strip into a single field - Merge the fields in the database using **Tools** > **Merge fields** and select fields to merge. The merge will now merge the geometry too. Once you merge on the desktop, then upload the new field to the map, the fields will be merged.

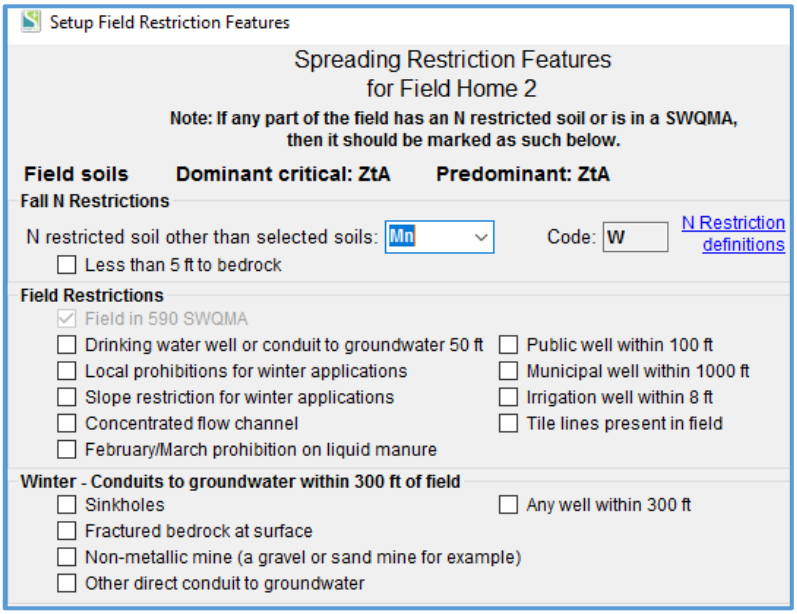




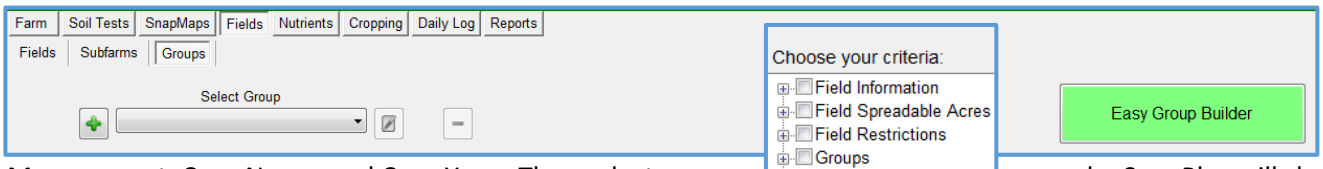


13. To only export shape files for certain fields - Make a group of fields you want to export the shape files for, then upload those fields to the map and export the shape files.

Field Screen – Restriction 2015-590 Nutrient Management Standard

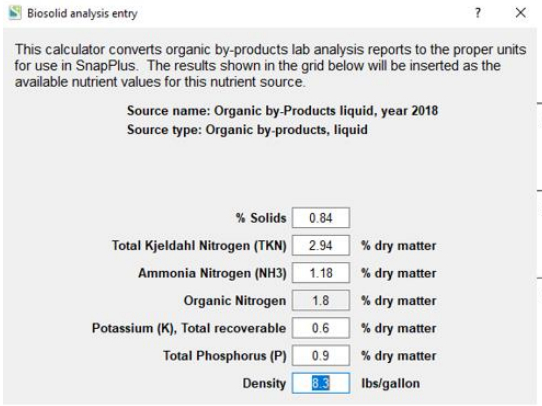


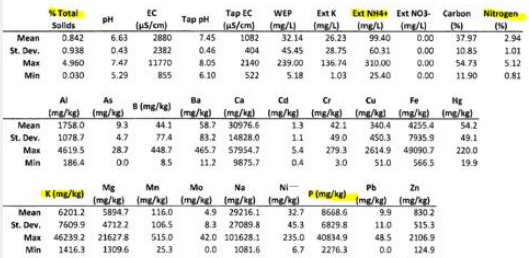
Field Screen – Groups SnapPlus can make a group of fields, like all my corn fields, if the Cropping screen has field data. 1. Select the subtab Groups under the Field screen and click on the **Easy Group Builder**. 2. Select Crop Management, Crop Name, and Crop Year. Then select search. SnapPlus will show you a list of all fields, crops, and years. Filter the Crop Name column to narrow your list to corn and the Crop Year to 2017 for this example. Select "Create Group". Name your group, click OK and close. If you are entering the Cropping screen field data for the first time, then make a group by manually selecting the fields. Select the subtab Groups under the Field screen. Click on the green plus sign and name the group something like "2017 Corn". Select the 2017 corn fields and send them over to the selected side to make a group. Use this group and the Rotation Wizard to select the correct year of the crop rotation for that group of fields.



Entering nutrient rates for biosolids, wastewater, and organic by-products

If you have an analysis for an organic amendment that does not report the nutrient contents as "% of solids" units, you will need to convert the results to these units using the reported solids content. Sometimes a wastewater-type analysis does not include any measurement of the solids content and, in those cases, you cannot use the SnapPlus analysis entry boxes. You can still calculate the lbs./1000 gallons of N, P2O5, and K2O, as long as concentrations are given for these nutrients. Instructions for converting various types of lab reports can be found on the SnapPlus website under Planning Information.





	% Total Solids	pH	EC (µS/cm)	Tap pH	Tap EC (µS/cm)	WEP (mg/L)	Ext K (mg/L)	Ext NH4+ (mg/L)	Ext NO3- (mg/L)	Carbon (%)	Nitrogen (%)
Mean	0.842	6.63	2880	7.45	1082	32.14	26.23	99.40	0.00	37.97	2.94
St. Dev.	0.938	0.43	2382	0.46	404	45.45	28.75	60.31	0.00	10.85	1.01
Max	4.960	7.47	11770	8.05	2140	239.00	136.74	310.00	0.00	54.73	5.12
Min	0.030	5.29	855	6.10	522	5.18	1.03	25.40	0.00	11.90	0.81

	Al (mg/kg)	As (mg/kg)	B (mg/kg)	Ba (mg/kg)	Ca (mg/kg)	Cd (mg/kg)	Cr (mg/kg)	Cu (mg/kg)	Fe (mg/kg)	Hg (mg/kg)
Mean	1758.0	9.3	44.1	58.7	30976.6	1.3	42.1	340.4	4255.4	54.2
St. Dev.	1078.7	4.7	77.4	83.2	14828.0	1.1	49.0	450.3	7935.9	49.1
Max	4619.5	28.7	448.7	465.7	57954.7	5.4	279.3	2614.9	49090.7	220.0
Min	186.4	0.0	8.5	11.2	9875.7	0.4	3.0	51.0	566.5	19.9

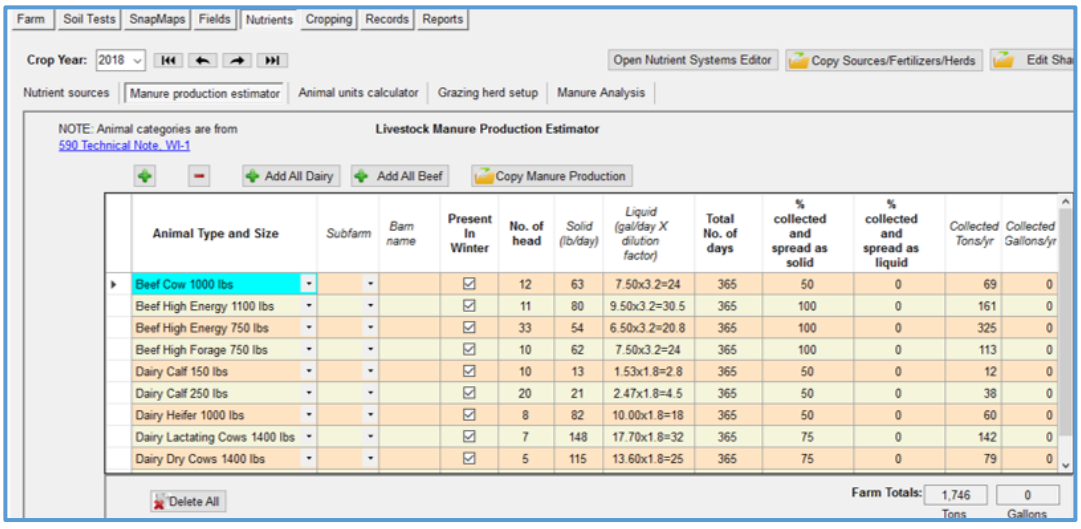
	K (mg/kg)	Mg (mg/kg)	Mn (mg/kg)	Mo (mg/kg)	Na (mg/kg)	Ni (mg/kg)	P (mg/kg)	Pb (mg/kg)	Zn (mg/kg)
Mean	6201.2	5894.7	116.0	4.9	29216.1	32.7	8668.6	9.9	830.2
St. Dev.	7609.9	4712.2	106.5	8.3	27089.8	45.3	6829.8	11.0	515.3
Max	46239.2	21627.8	515.0	42.0	101628.1	235.0	40834.9	48.5	2106.9
Min	1416.3	1309.6	25.3	0.0	1081.6	6.7	2276.3	0.0	124.9

Available nutrients (lbs/1000 gallons)

	N Surface	N Incorporated	P2O5	K2O
Application year	0.7	1.1	1.1	0.4
Second year	0.1	0.1	0	0
Third year	0.1	0.1	0	0

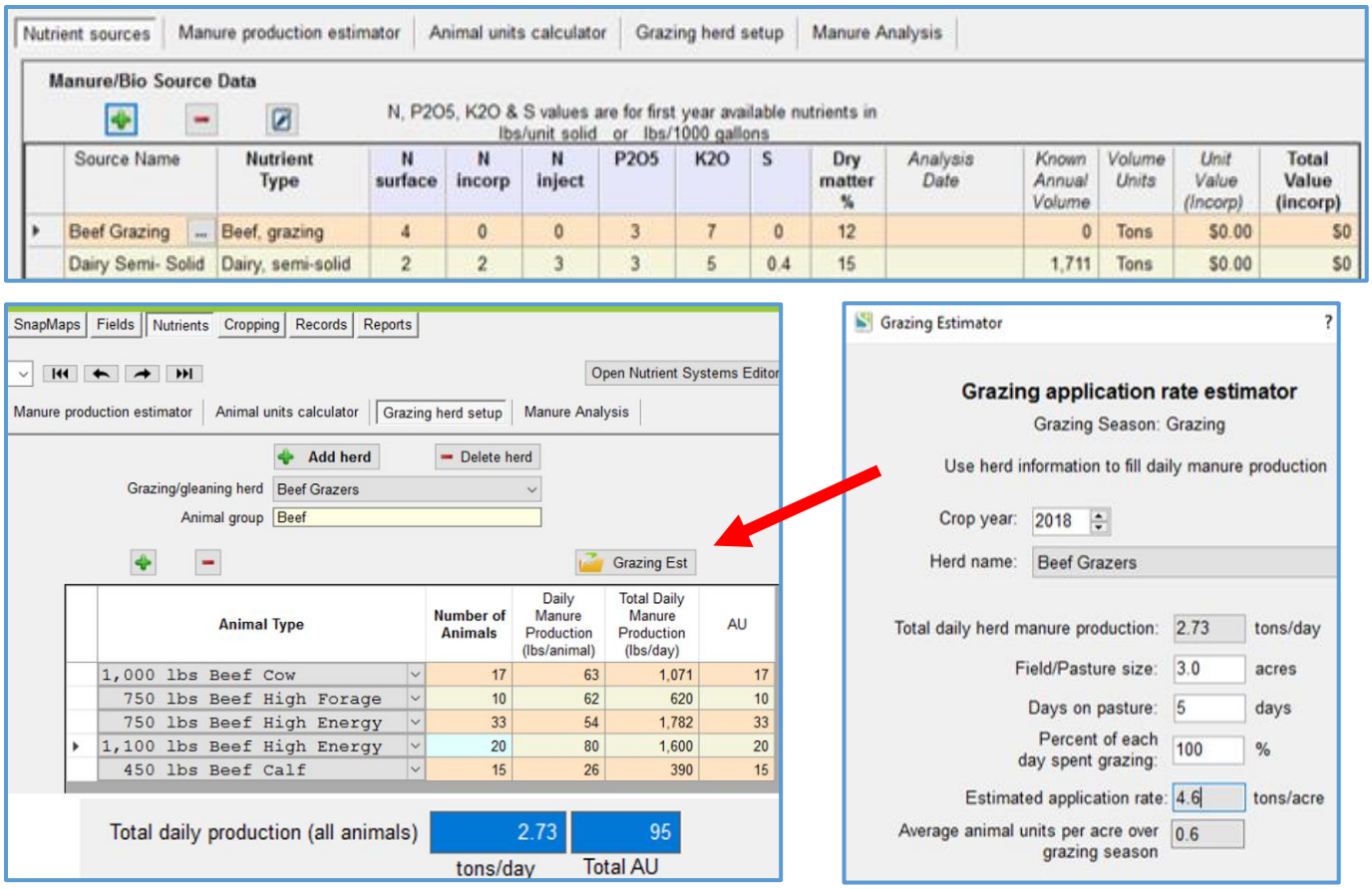
Nutrients Screen - Winter Produced Manure

For 2019 please account for the manure produced in the winter. Is it hauled, stored, grazed out by animals? At what amounts? The NM6 Winter spreading plan report will help you if the Manure Estimator page is filled out. It also provides fields that can have the emergency 14 days of production applied to them if necessary.

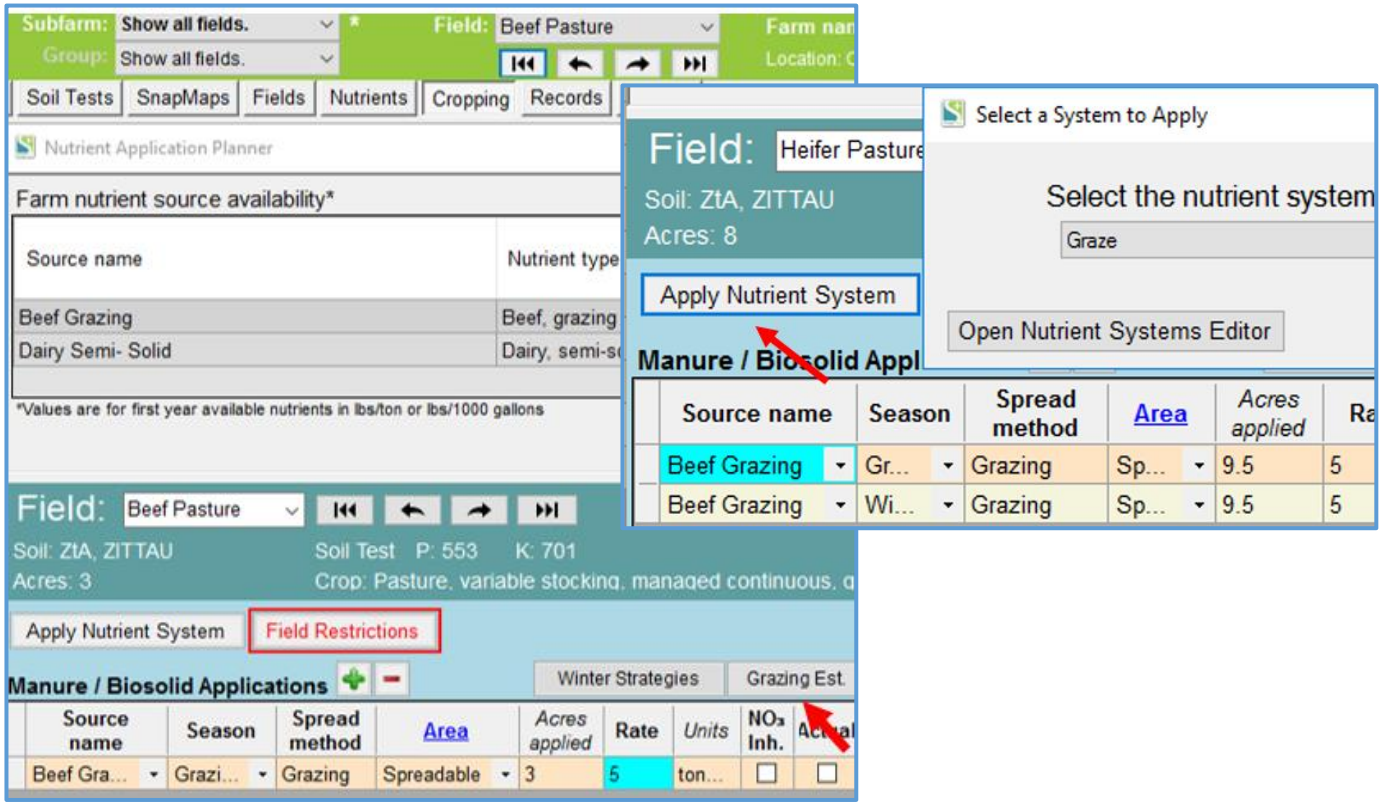


Animal Type and Size	Subfarm	Barn name	Present In Winter	No. of head	Solid (lb/day)	Liquid (gal/day X dilution factor)	Total No. of days	% collected and spread as solid	% collected and spread as liquid	Collected Tons/yr	Collected Gallons/yr
Beef Cow 1000 lbs			☑	12	63	7.50x3.2=24	365	50	0	69	0
Beef High Energy 1100 lbs			☑	11	80	9.50x3.2=30.5	365	100	0	161	0
Beef High Energy 750 lbs			☑	33	54	6.50x3.2=20.8	365	100	0	325	0
Beef High Forage 750 lbs			☑	10	62	7.50x3.2=24	365	100	0	113	0
Dairy Calf 150 lbs			☑	10	13	1.53x1.8=2.8	365	50	0	12	0
Dairy Calf 250 lbs			☑	20	21	2.47x1.8=4.5	365	50	0	38	0
Dairy Heifer 1000 lbs			☑	8	82	10.00x1.8=18	365	50	0	60	0
Dairy Lactating Cows 1400 lbs			☑	7	148	17.70x1.8=32	365	75	0	142	0
Dairy Dry Cows 1400 lbs			☑	5	115	13.60x1.8=25	365	75	0	79	0

If grazing, add this to the Nutrient tab as a source, then create a grazing herd to determine rates. If animals are on a feed lot with no vegetation be sure it does not have significant discharge.

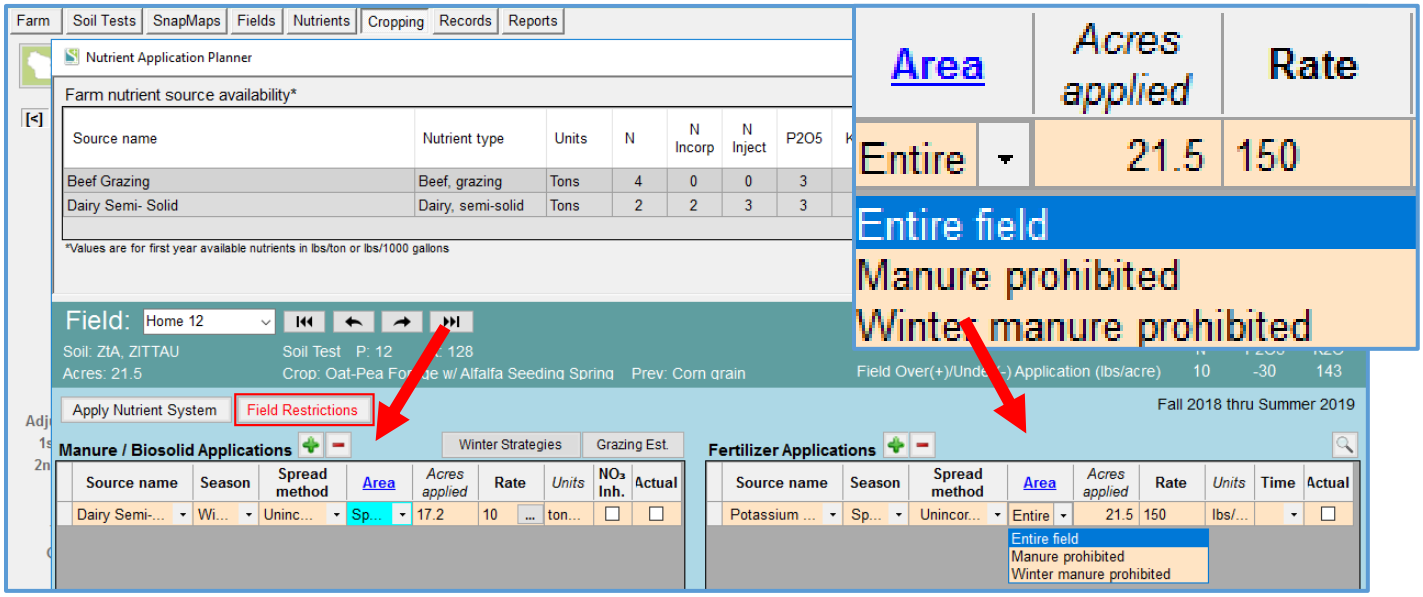


Cropping Screen – Better organized Nutrient Application Planner



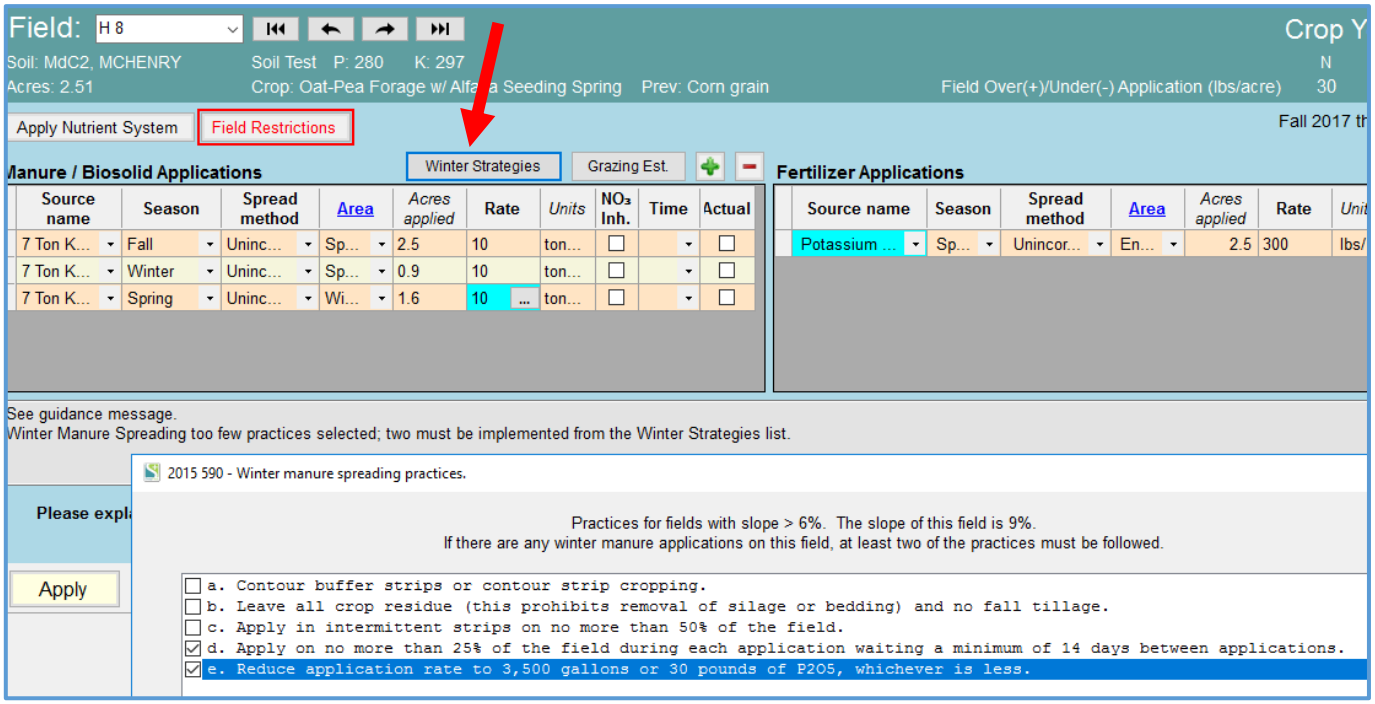
Cropping Screen - Winter Spreadable Acres

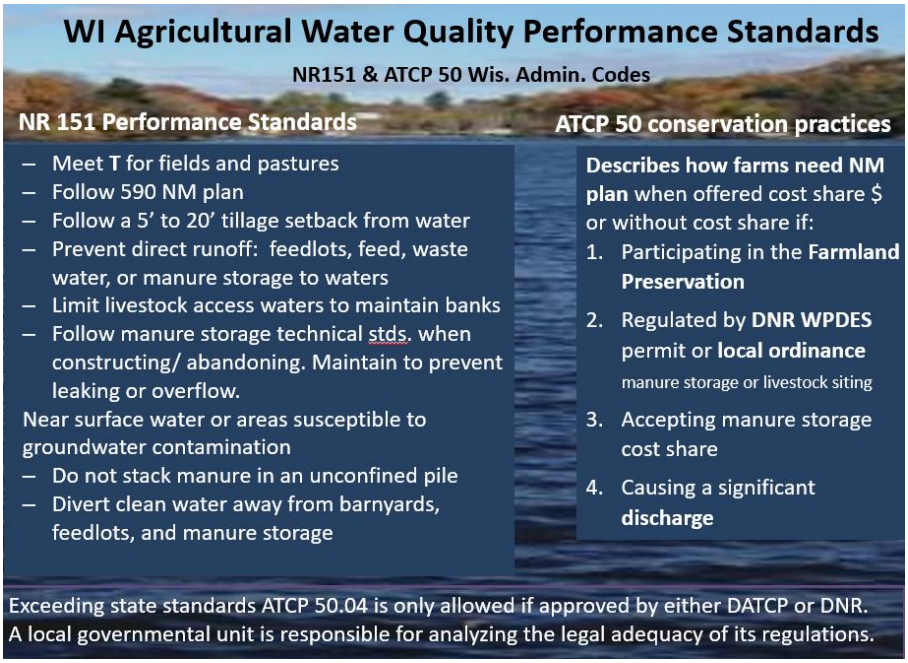
If your field has areas where manure is prohibited in the winter like within 300' of wells or streams, then Spreadable Area located in the Nutrient Application Planner can help you apply to the allowable parts of the field in the winter. It also allows you to apply manure or fertilizer to the winter restricted area in other seasons.

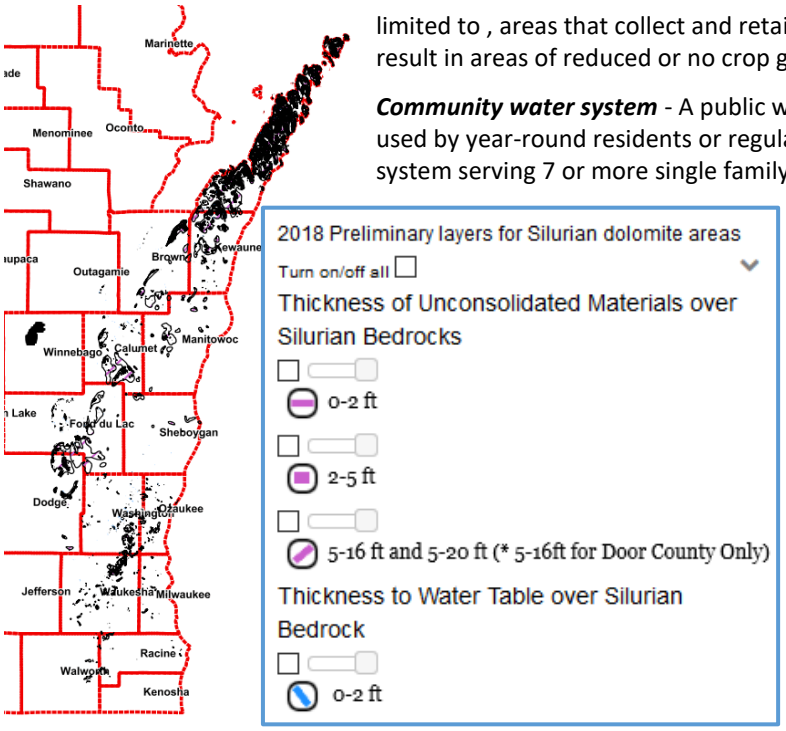


Cropping Screen - Winter Spreading Practices

SnapPlus will select winter spreading strategies if it can be determined from the information already provided in the database or you can select two options for the winter application. The NM6 Winter Spreading Plan will show the practices for the field.







Soil thickness less than 2 feet and less than 5 feet were determined using NRCS's soil data. Soil thickness less than 20' were determined by the following sources: 1) Sherrill, M.H. (1978), Sherrill, M.G. (1979), 3) Evans, T.J., Massie-Ferch, K.M., and Peters, R.M. (2004). The Silurian distribution was determined by the following sources: 1) Mudrey, Jr., M.G., Brown, B.A., and Greenberg, J.K. (1982), 2) Evans, T.J., Massie_Ferch, K.M., and Peters, R.M. (2004), 3) Luczaj, J.A. (2011), and 4) McLaughlin, P.I. (2013).

NR 151.075 Wis. Admin. Code, Silurian bedrock targeted performance standard to protect wells from fecal contamination in areas of Wisconsin with Silurian bedrock was promulgated July 1, 2018. NR 243 Wis. Admin. Code, includes this performance standard. DNR's 2018 preliminary layers are shown in SnapMaps v.17.

Closed depression - A topographical basin where water ponds to a seasonal high water mark, has no external drainage, and drainage may occur either through direct conduits to groundwater or low areas where water ponds and infiltrates into the groundwater. Closed depressions may be identified using topographic maps and visual interpretations, ArcGIS tools, or other methods. A seasonal high water mark any include, but is no limited to , areas that collect and retain water for extended time periods (days or weeks) that result in areas of reduced or no crop growth. NR 151.015(2).

Community water system - A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. Any water system serving 7 or more single family homes, 10 or more mobile homes, 10 or more apartment units, 10 or more duplex living units or 10 or more condominium units shall be considered a community water system unless information is provided by the owner indicating that 25 year-round residents will not be served. NR 811.02 (16). ***Non-community water system*** - A public water system that is not a community water system. A non-community water system may be either a non-transient non-community water system or a transient non-community water system. NR 811.02 (43), NR 812.07(64).

Concentrated Flow Channel - A natural channel or constructed channel that has been shaped or graded to required dimensions and established in perennial vegetation for the stable conveyance of runoff. This definition may include non-vegetated channels caused by ephemeral erosion, intermittent streams, drainage ditches and ends identified on the NRCS soil survey and may be identified as contiguous up-gradient deflections of contour lines on the USGS 1:24,000 scale topographic map. NR 151.015(2m), (590 IV.A.2.a.(1)). Refer to NRCS FOTG Standard 412, Grassed Waterway, for more information on construction.

Direct conduits to groundwater - Wells, sinkholes, swallets, fractured bedrock at the surface, mine shafts, non-metallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured bedrock. NR 151.002(11m).

Dry matter content - The material remaining after water is completely evaporated from the manure sample. Drying is considered complete when the sample weight remains constant (<0.1% DM change) with at least 6 hours additional drying time. UWEX Pub. A3769 Recommended Methods of Manure Analysis.

Mapping Field Bedrock information link http://www.uwdiscoveryfarms.org/research-library/mapping-bedrock-research

NR 151.075 and NR 243.143 Runoff Management Targeted Performance Standard ver.8/6/2018

Requires the following: No fecal contamination of wells; a NM plan to meet ATCP 50.04(3); and Silurian bedrock map information within or adjacent to cropland. NR 151.075(2), (4)(a)(b)(c)(d), (5)

<2' to Silurian bedrock or apparent water table **All mechanical applications** are prohibited. NR 151.015(18)(e), 151.075(9), (3)

<5' to bedrock Prohibited mechanical applications	No mechanical **Winter** application when soils are frozen or snow covered and no headland stacking. 590 prohibits liquid manure in Feb. and March 151.075(7) Prohibited mechanical applications: 1. Until fields are ranked for risk of pathogen delivery to groundwater. 151.075(6) 2. When rainfall >1" forecast within 24 hours. 151.075(8)
2'-20' to bedrock Prohibited mechanical applications Restricted application for solid and liquid mechanical applications	Prohibited mechanical applications setbacks: 151.075(16) 1000' setback from community well. NR 151.015(18)(b), 151.075(13)(a) 300' up, 100' down slope from **direct conduits to groundwater** (DCTGW) NR 151.015(18)(c), (13)(c) 250' setback from other drinking wells. NR 151.015(18)(a), 151.075(13)(b) 100'setback from concentrated flow channel leading to DCTGW. (13)(d) Fields with ≥6% slope and **concentrated flow channels** to **closed depression** use one: 151.075(15) 1. *Incorporation* mechanical application within 24 hours. 151.015(8d) 2. The field has 3 or more years of *no tillage*. 151.015(11m) 100' setback from **closed depression** use one: 151.075(14) 1. Applied at least 24 hours prior to precipitation capable of producing runoff. 2. Incorporation/*injection* within 24 hours. 151.015(8p) 3. The field has 3 or more years of no tillage.

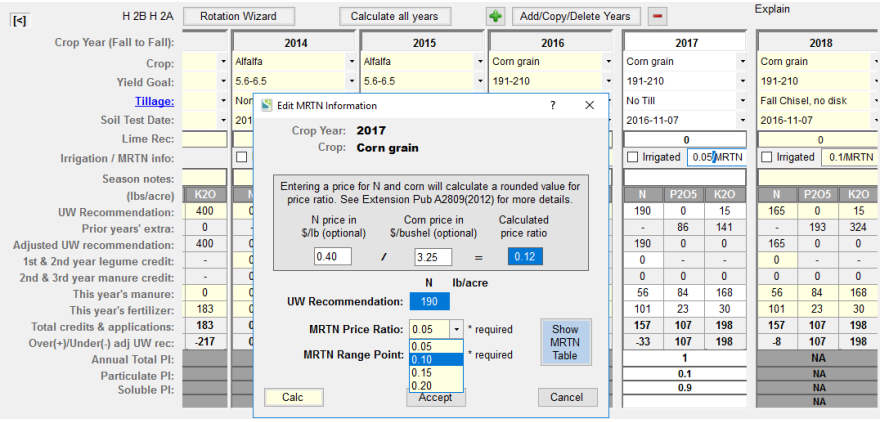
Depth to bedrock Corn needs 130-190 lbs. N/acre depending on soil type and crop rotation	**Solid manure conditions** ≥ 12% DM for CAFOs > 11% for 590 NM plans 2 lbs. N, 3 lbs. P2O5/ Dairy Ton *15T/A/Y= 30 lbs. N and 45 lbs. P2O5/A/Y	**Liquid manure conditions** <12% DM for CAFOs ≤ 11% for 590 NM plans 12 lbs. N, 6 lbs. P2O5/ 1,000 Dairy Gals.*13,500 Gals./A/Y= 162 lbs. N and 81 lbs. P2O5/A/Y
2-3' 151.075(10)	Incorporate* within 72 hours to ≤ 4" (10)(a)1. and; at least one of the following: (10)(a)2. a. Rate is lesser of A2809 or 15 T/Ac/Y 81 T/ac =162 lbs. N/ac, 40.5T /ac = 81 lbs. N/ac b. A2809 within 10 days of planting or on est. crop c. Pathogens ≤ 500,000 CFU	Pre-tillage if the field meets T* and; (10)(b)1. Incorporate/inject* to ≤ 4" within 24 hrs. (10)(b) 2. and; At least one of the following: (10)(b)3. a. Rate is lesser of A2809 or Table 1. Rates NR 214 13.5K g/a loam=162 lbs. N/ac, 6.75K g/a other=81 lbs. N/ac b. A2809 within 10 days of planting or on est. crop c. Pathogens ≤ 500,000 CFU
3-5' 151.075(11)	Same as above a, b, c except ≤6" till depth (11)(a)1.	Pre-tillage if the field meets T* and; (11)(b)1. Incorporate/inject* ≤ 6" within 24 hours (b)2. and; Same as above a, b, c.
5-20' 151.075(12)	Follow NRCS WI 2015-590 Standard and 151.075(16) above**, no incorporation requirement**.	Same as above except Table 1. Rates (12)(a)1. 27 K g/a loam=324 lbs. N/ac, 13.5K g/a other=162 lbs. N/ac

***Exemption - **Pre-tillage** to at least 2" below manure application is not required if fields can't meet T when implementing tillage, crops, contouring, filter strips, or cover crops. **Pre-tillage, incorporation, or injection** is not required if 3 or more years of no tillage, 151.075(10)(c)(d), (11)(c)(d), (12)(b)(c). Mechanical liquid manure applications are limited to ≤ 6,750 Gal./Ac/application where bedrock is within 2-5' 151.075(10)(c), (11)(c), and 10,000 Gal./Ac/application where bedrock is within 5-20', 151.075(12)(b).

Technical Standard available for cost share: 50.62 Manure storage systems. 50.69 Critical area stabilization. 50.70 Diversions. 50.75 Livestock fencing. 50.76 Livestock watering facilities. 50.78 Nutrient management. 50.80 Prescribed grazing. 50.81 Relocating or abandoning animal feeding operations. 50.82 Residue management. 50.83 Riparian buffers. 50.87 Sinkhole treatment. 50.89 Strip cropping. 50.96 Waterway system.

Questions for the participants:

1. Given the corn price is around $3.00/bushel and nitrogen is around $0.40/pound, can we change the default Maximum Return To Nitrogen to .10. The red flag will not show until the highest N rate of the MRTN range .05 ratio is exceeded. Should we update the MRTN default ratio?



2. Do you want a column for all the restrictions on a report?

3. Do you want a report that tells you which fields have no N fall restrictions, and no SWQMA present?

4. Do you want the NM Checklist as a report filling each item when possible?